

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claim 1 (currently amended): A pharmaceutical composition that potentiates immunogenicity of low immunogenic antigens, comprising:

(A) one or more low immunogenic antigens selected from the group consisting of peptides, polypeptides, proteins and their corresponding nucleic acid sequences; and

(B) an immunogenic potentiating effective amount of a vaccine carrier consisting of very small size proteoliposomes (VSSPs), wherein the VSSPs are derived from the Outer Membrane Protein Complex (OMPC) of *Neisseria meningitidis* wherein gangliosides have been incorporated into the OMPC,

wherein the pharmaceutical composition antigen is not structurally changed and is not incorporated into the VSSPs and wherein the vaccine carrier stimulates and potentiates both humoral and cellular immune responses against the antigen.

Claim 2 (canceled).

Claim 3 (previously presented): The composition of claim 1, wherein the low immunogenic antigens or their extra-cellular domains are growth factor receptors.

Claim 4 (previously presented): The composition of claim 3, wherein the extra-cellular domains of the growth factors receptors may or may not contain the trans-membrane region.

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Claim 5 (previously presented): The composition of claims 3, wherein the growth factor receptors are HER-1, HER-2, PDGR-R or any variation containing the extra-cellular domain, with or without the trans-membrane region.

Claim 6 (previously presented): The composition of claim 1, wherein the *Neisseria meningitidis* is either a wild type or a genetically modified strain.

Claim 7 (previously presented): The composition of claim 1, wherein the VSSPs are obtained by hydrophobically incorporating the gangliosides into the OMPC.

Claim 8 (previously presented): The composition of claim 7, wherein the gangliosides are GM1, GM3, their N-acetylated variations or their N-glycolylated variations.

Claim 9 (previously presented): The composition of claim 27, wherein the adjuvant is an oily adjuvant, or a natural or recombinant polypeptide.

Claim 10 (previously presented): The composition of claim 9, wherein the oily adjuvant is the Incomplete Freund's Adjuvant.

Claim 11 (previously presented): The composition of claim 10, wherein the Incomplete Freund's Adjuvant is Montanide ISA 51.

Claim 12 (withdrawn): The composition of claim 9, wherein the polypeptide adjuvant is a cytokine.

Claim 13 (withdrawn): The composition of claim 12, wherein the cytokine is the Granulocyte-Macrophage Colony Stimulating Factor.

Claims 14-20 (canceled).

Claim 21 (withdrawn): A method of treating cancer in a patient in need of such treatment, said method administering to said patient an anticancer effective amount of a composition of claim 1.

Claim 22 (withdrawn): The method of claim 21, wherein the cancer is prostate, colon, lung, breast, ovary, head-neck, vulva, bladder or brain cancer or glioma.

Claim 23 (withdrawn): A method of treating viral or bacterial infections in a patient in need of such treatment, said method comprising administering to said patient an anti-infection effective amount of a composition of claim 1.

Claim 24 (withdrawn): A method of treating an auto-immune disease in a patient in need of such treatment, said method comprising administering to said patient an anti auto immune disease effective amount of a composition of claim 1.

Claim 25 (withdrawn): A method of treating a non-transmissible chronic disease in a patient in need of such treatment, said method comprising administering to said patient an anti non-transmissible chronic disease effective amount of a composition of claim 1.

Claim 26 (withdrawn): A method of treating AIDS in a patient in need of such treatment, said method comprising administering to said patient an anti-AIDS effective amount of a composition of claim 1.

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Claim 27 (previously presented): The composition of claim 1, wherein the pharmaceutical composition further comprises one or more adjuvants.

Claim 28 (previously presented): The pharmaceutical composition of claim 8, wherein the gangliosides are N-acetylated GM3.

Claim 29 (previously presented): The composition of claim 5, wherein the growth factor receptor is HER-1.